

seals.¹ Dr. Dybowski passed a year on the Ussour River, and brought a beautiful collection of birds, fish, and quadruped skeletons. His descriptions are sent to the Berlin Museum. Now he is occupied upon the Baikal with soundings and observations on the Baikal seals. He wishes to write a monograph on this particular species of seals. This is nearly all that was done last year, as far as expeditions are concerned, in this part of the world."

My correspondent refers me to the proceedings of the Siberian Geographical Society for further details. It is much to be regretted that this publication, as well as the excellent Calendar of Eastern Siberia are so little known, out of Asia. I further learn that earthquake shocks have been felt at Irkutsk on the 4th of September last, at 2.55 A.M., and a slight one on the 4th of January. The first one came from the east. A clock which was secured by screws almost an inch long, was left leaning on one side, and both of the screws drawn completely out of the wall. The Baikal district is the spot in Northern Asia which is most visited by earthquakes.

Since I am on the subject of Siberia, I may mention two facts of considerable interest which I learnt last year. I was told by inhabitants of Jenesseisk that in the regions to the north of that town the compass is of no use during an auroral display. It is not at all unlikely that this should be the case in a country where auroral effects are intense, and the horizontal component of the earth's magnetism is small. The other interesting fact is that Mr. Muller had reached Gauss' Siberian magnetic pole, where he found the needle vertical. This was shortly before I reached Irkutsk. His observations were to be published in the Proceedings of the Siberian Geographical Society. I do not know whether a translation has been published.

GEORGE FORBES

Andersonian University, Glasgow, April 4

THE DUBLIN SOCIETIES

WE have recently referred in several articles to the efforts which are being made to introduce a more satisfactory organisation among the various scientific institutions in Dublin, which have hitherto been independent of each other. It appears now to be proposed not merely to unite museums, but to unite into one body the Royal Irish Academy and the Royal Dublin Society. This project would seem to have originated at a meeting which a deputation from the latter body had with Major Donnelly. It is evident that many difficulties would be removed and many advantages result from the amalgamation of these two societies. Of course the arrangements for such an amalgamation must be carried out entirely by the societies, though it would no doubt tend to forward such a scheme if the societies were assured of the approval of Government, and of such aid towards taking the necessary steps as the Government has in its power to give.

We understand further that there is some possibility of an amalgamation of the Royal Agricultural Society of Ireland with the Royal Dublin Society. It is most desirable that such an amalgamation should be effected, and that the agricultural shows should be removed from the present buildings beside Leinster House to the Phoenix Park.

From a letter which has been published in the Irish papers, it appears that these points have been submitted by Major Donnelly to Lord Sandon, who has informed him that the Government are prepared to aid the amalgamation and to give the necessary space in the Phoenix Park.

Should the amalgamation be effected, it would probably

¹ Lake Baikal is remarkable, among other things, for the presence of these marine animals. The seals are grey, and have a very coarse fur. I took a photograph last summer of one which was in the Museum at Irkutsk. —G. F.

take the form of a new Society with a limited number of Fellows, ordinary members, and an Agricultural Section.

It is possible enough that some of the members of the Royal Irish Academy may object to the proposed change, on the score that they would thus lose caste. We cannot admit the validity of such an objection. The Academy has no doubt done good work, but it has a large number of members on its roll who are no more entitled to any scientific or literary distinction than the general body of the members of the Royal Dublin Society. If, however, the Academy consent to the proposed change, the Fellowship of the new Society would become a high and much-coveted honour, and the reputation of the whole body would be far higher than that of the separate societies is now. As to the objection that the large body of general members are unfit to select Fellows, we think that the Fellows may very well be entrusted with the selection of Fellows; the first Fellows under the new charter might be, say Fellows of Trinity College, Dublin, Professors and ex-Professors of a College or University, and others with similar positions, who should be empowered to choose their successors. There need be no difficulty, while acting with perfect fairness and openness, in choosing for the inner circle and also for the governing body the best men of the new society, men who would make a point of maintaining its honour and dignity. The Royal Irish Academy would thus become, under a new name, a select body of Fellows chosen for their scientific and literary merit; in time, indeed, this fellowship might come to be regarded as an honour little inferior to that of F.R.S.

The union of the societies would remove many difficulties as to ownership of property, and would place at their disposal a much larger amount of funds for scientific and literary work than they at present possess. Indeed, it appears to us that from the union on the proposed basis, nothing but good could result, great benefits to the members, and much greater advantages than at present exist for the promotion of science in Ireland. Since government has promised to aid the United Society as far as possible, we think it would be a pity if any petty spirit of local jealousy should raise obstructions to the accomplishment of a scheme which promises so well for the country.

GERMANY AND THE LOAN EXHIBITION

THE German Committee for the London Loan Exhibition of Scientific Apparatus has addressed a report to the Crown Prince and Crown Princess of Germany on the success of their efforts. It results from this document that 311 German exhibitors will be represented by 2,492 objects. The 19 classes will be represented as follows:—

1. Arithmetic by	6 exhibitors and	11 objects.
2. Geometry by	13	35 "
3. Measurement by	59	126 "
4. Kinematics by	10	308 "
5. Molecular Physics by	23	33 "
6. Sound by	10	24 "
7. Light by	35	118 "
8. Heat by	19	41 "
10. Electricity by	32	194 "
11. Astronomy by	25	78 "
12. Applied Mechanics by	13	64 "
13. Chemistry ¹ by	32	389 "
14. Meteorology by	18	49 "
15. Geography by	29	110 "
16. Geology by	22	118 "
17. Mineralogy by	19	39 "
18. Biology by	54	289 "
19. Educational Collections by	5	441 "

The space claimed by the exhibitors will be 109 square metres floor, 442 square metres repositories (tables, &c.), 299 square metres wall. Considering that two months had to suffice for bringing together this collection, that manu-

¹ Exclusive of the collective exhibition of the German Chemical Society, which will represent about 40 exhibitors with 300 objects.

facturers are beginning to feel indifferent with regard to exhibitions, that the Vienna Exhibition in the past and the Philadelphia Exhibition in the present years, have been absorbing their energies, the Committee think that they have reason to be contented with the results obtained. This view is strengthened by comparing the above numbers with those of 127 exhibitors only who represented German science at Vienna. The Committee express themselves greatly obliged for the assistance given by the Lord President of the Council of Education, the Duke of Richmond and Gordon, the Vice-President, Viscount Sandon, the Director of the South Kensington Museum,

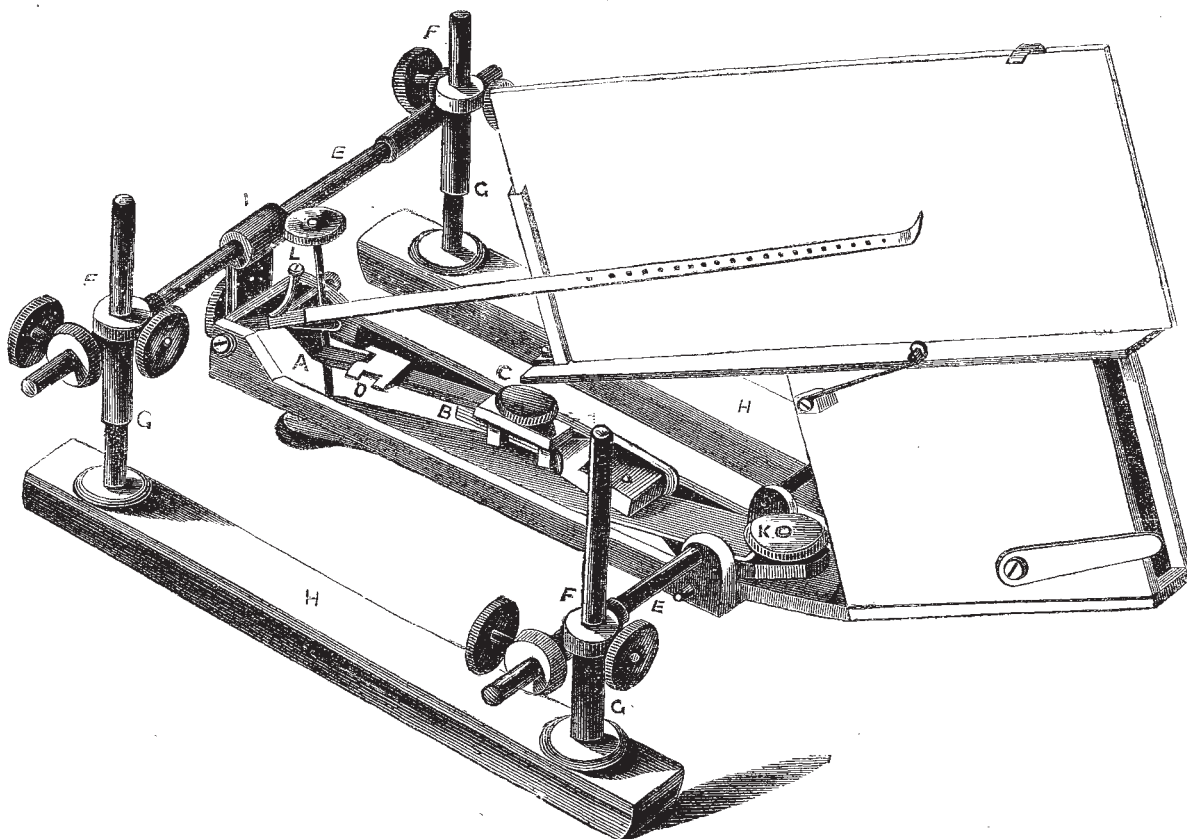
Mr. Cunliffe Owen, and to the Government and Officers of the German Empire and of Prussia, notably to the Ministers of Education, Dr. Falk, of Commerce, Dr. Achenbach, of War, General von Kamecke, of Marine, to the head of the General Staff, Count Moltke, to the Postmaster-General, Dr. Stephan, and also to the Royal Library, to the Royal Academy of Science, and to the German Chemical Society. The Committee conclude by claiming the assistance of the German Empire for the production of a systematic and critical report on the scientific treasures of all nations that will be exhibited in London.

ON A MODIFIED CARDIOGRAPH

DR. A. L. GALABIN, whose investigations with the sphygmograph and cardiograph we have had the opportunity of noticing on former occasions (*vide* NATURE, vol. xii. p. 275), has introduced a modification of the cardiograph, a woodcut drawing of which, through the kindness of the Council of the Royal Medico-Chirurgical Society, we are able to reproduce from their "Transactions."

The cardiograph of Marey is too well known to require

description; suffice it to say that it depends for its action on the transmission through air-filled tubes of movements from one stretched elastic membrane to another. In it, therefore, errors originating in the tubes are introduced; and these, from practical experience, are found to be considerable. More than one physiologist has obtained far more satisfactory "cardiograms" by applying the sphygmograph, which was originally constructed by its inventor—M. Marey—for the purpose of recording the movements of the pulse at the wrist, upon the chest-wall, in the intercostal spaces. This instrument, when thus



applied, reproduces in a most faithful manner the movements of the chest-walls as there produced by the subjacent heart in action; and in the healthy subject any accessory apparatus is rarely needed for the satisfactory production of the tracings.

In many pathological conditions, and in the healthy subject when the cardiac movements are more than ordinarily powerful, the movements of the heart are transmitted to the neighbouring ribs, on which the sphygmograph has to be supported, as well as to the more yielding intercostal tissues. Under these circumstances it is far better to employ, as supports for the instrument, more

fixed points, which must, from the nature of the chest-wall, be at some distance from the centre of cardiac movement. Dr. Galabin's apparatus supplies us with the means needed. It is an expanded framework constructed in a manner which allows of its being firmly applied to a considerable expanse of the irregularly-shaped chest. From the drawing its principle can be best understood (See Figure).

In the middle of the figure the sphygmograph is seen. It differs from M. Marey's original in one or two minor details, which are decided improvements. The most important of these is that the brass bar A B, on which the